



## **WATER RESOURCES RESEARCH GRANT PROPOSAL**

**Project ID:** 2005DE61B

**Title:** Self-Sustaining, Least-toxic Methods for Managing Mosquito Populations in Storm water Ponds

**Project Type:** Research

**Focus Categories:** Management and Planning, Surface Water, Wetlands

**Keywords:** None

**Start Date:** 05/01/2005

**End Date:** 02/28/2006

**Federal Funds:** \$1,750

**Non-Federal Matching Funds:** \$3,500

**Congressional District:** At Large

**Principal Investigator:**

John Gingrich

### **Abstract**

Storm water retention ponds are intended to hold water after rainfall events, either permanently or semi-permanently, depending on design and weather. They have been, along with several other types of storm water ponds, in wide use since the Clean Water Act of 1972. Their purpose is to retain excess water runoff, as well as to filter out or degrade toxins before they enter the water table. In the last decade, there has been a trend toward creating more retention ponds, and making them shallower and more highly vegetated, with a secondary goal of providing wildlife habitats.

In the past two years, Gingrich et al. (2005, in manuscript) have demonstrated that shallow, highly vegetated ponds are also the ponds most prone to producing excess numbers of mosquito larvae. Mosquitoes become a problem because, as their numbers increase, they become not only a nuisance, but also a health threat for humans and animals, carrying such diseases as the West Nile virus. Because mosquito control resources throughout the state are limited, and relatively little is known about storm water ponds, they are generally the last to be treated for mosquito reduction purposes. Therefore, it is highly desirable to prevent ponds from becoming ideal places for mosquito breeding before mosquitoes can establish themselves in such ponds.

Methods of mosquito control for storm water ponds and other mosquito breeding areas should be as self-sustaining as possible. This means that the mosquito management methods should not only be environmentally safe, but also cost effective, and require minimal human resource inputs to implement.